

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
Stylesheet Version v1.2

EPAS ID: PAT7311475

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
ZHI YANG	07/01/2020
ANH TUAN NGUYEN	06/30/2020
DIU KHUE LUU	06/30/2020
JIAN XU	07/03/2020
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	REGENTS OF THE UNIVERSITY OF MINNESOTA
<b>Street Address:</b>	600 MCNAMARA ALUMNI CENTER, 200 OAK STREET SE
<b>City:</b>	MINNEAPOLIS
<b>State/Country:</b>	MINNESOTA
<b>Postal Code:</b>	55455-2020
<b>PROPERTY NUMBERS Total: 2</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	17066456
<b>Application Number:</b>	62913759
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(608)251-9166
<i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.</i>	
<b>Phone:</b>	6082832477
<b>Email:</b>	ip-docket@quarles.com
<b>Correspondent Name:</b>	JACK M. COOK
<b>Address Line 1:</b>	411 EAST WISCONSIN AVENUE
<b>Address Line 2:</b>	SUITE 2400
<b>Address Line 4:</b>	MILWAUKEE, WISCONSIN 53202-4428
<b>ATTORNEY DOCKET NUMBER:</b>	920171.00374 UMN
<b>NAME OF SUBMITTER:</b>	JACK M. COOK
<b>SIGNATURE:</b>	/JACK M. COOK/
<b>DATE SIGNED:</b>	05/03/2022
<b>Total Attachments: 12</b>	

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UNIVERSITY OF MINNESOTA  
**ASSIGNMENT**

WHEREAS, I, Zhi Yang, have invented certain new and useful inventions in SYSTEM AND METHOD FOR A SUPER-RESOLUTION DIGITAL-TO-ANALOG CONVERTER BASED ON REDUNDANT SENSING, for which applications for Letters Patents of the United States have been made, said applications being filed as follows: Provisional application no. 62/913,759 on October 11, 2019; (the "Application(s)");

WHEREAS, REGENTS OF THE UNIVERSITY OF MINNESOTA ("Assignee"), having offices at 600 McNamara Alumni Center, 200 Oak Street SE, Minneapolis, Minnesota 55455-2020, is desirous of documenting the acquisition of the entire right, title and interest in and to said invention, said Application(s) and in, to and under any and all Letters Patent to be obtained therefor;

WHEREAS, I hereby acknowledge an obligation of assignment of the inventions disclosed in the Application(s) to Assignee at the time the invention(s) was made;

NOW, THEREFORE, to all whom it may concern, be it known that for good and valuable consideration, the receipt and sufficiency whereof is hereby acknowledged, and to the extent that I have not done so already via a prior agreement with the Assignee, or if I have already done so via a prior agreement with the Assignee then in confirmation of said prior agreement, I have sold, assigned, transferred and set over and by these presents do sell, assign, transfer and set over unto Assignee, its successors and assigns, the entire right, title and interest in and to the inventions set forth hereinabove and the entire right, title and interest in and to any and all Letters Patent of the United States and any foreign countries which may be granted therefor on the Application(s) including rights of priority under the Paris Convention for the Protection of Industrial Property and the European Patent Convention, and in and to any and all extensions, divisions, continuations, continuations-in-part or reissues of said Application(s) and Letters Patent that may be granted, including all rights to claim priority therefrom, and specifically including the right to enforce such Letters Patent in the name of Assignee and to recover damages for past infringement of the rights conveyed herein, the same to be held and enjoyed by Assignee for its own use and benefit and use and benefit of its successors and assigns to the full end of the term for which said Letters Patent may be granted, as fully and entirely as the same would have been held and enjoyed by me had this assignment and sale not been made.


I hereby authorize said Assignee, its successors and assigns, or anyone it may properly designate, to apply for Letters Patent, in its own name if desired, in any and all foreign countries, and additionally to claim the filing date of any the Application(s) and/or otherwise take advantage of all rights of priority created by said Application(s) under any treaty relating thereto (including the right to claim priority to said patent application, e.g., under the provisions of the Paris Convention for the Protection of Industrial Property and the European Patent Convention).

Attorney Docket No. 920171.00319  
UM Case No. 2020-003

Upon said consideration I do hereby covenant and agree with said Assignee, its successors and assigns, that I will not execute in writing or do any act whatsoever conflicting with these presents, and that I or my executors or administrators will at any time upon request, without further or additional consideration, but at the expense of said Assignee, its successors and assigns, execute such additional writings and do such additional acts as said Assignee, its successors and assigns, may deem necessary or desirable to perfect the Assignee's enjoyment of this grant, and render all necessary assistance in making application for and obtaining original, divisional, reissues or extended Letters Patent of the United States, or of any and all foreign countries on said invention, and in enforcing any rights occurring as a result of such application or patents, by giving testimony in any proceedings or transactions involving such applications or patents.

I hereby request the Honorable Commissioner of Patents and Trademarks to issue the Letters Patent to Assignee in accordance with this instrument.

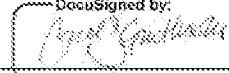
I have hereunto set my hand on July 1, 2020 | 8:28 PM CDT

DocuSigned by:  
  
6F7801A487D24AA...

Zhi Yang

I have hereunto set my hand on, July 6, 2020 | 6:45 AM CDT, on behalf of  
Assignee Regents of the University of Minnesota accepting this assignment.

REGENTS OF THE UNIVERSITY OF MINNESOTA

DocuSigned by:  
  
DF8839187311411

Carol Grutkoski  
Chief of Staff and Operations Manager  
per Presidential Delegation ID\_257866

Attorney Docket No. 920171.00319  
UM Case No. 2020-003



## UNIVERSITY OF MINNESOTA

### ASSIGNMENT

WHEREAS, I, Anh Tuan Nguyen, have invented certain new and useful inventions in SYSTEM AND METHOD FOR A SUPER-RESOLUTION DIGITAL-TO-ANALOG CONVERTER BASED ON REDUNDANT SENSING, for which applications for Letters Patents of the United States have been made, said applications being filed as follows: Provisional application no. 62/913,759 on October 11, 2019 (the "Application(s)");

WHEREAS, REGENTS OF THE UNIVERSITY OF MINNESOTA ("Assignee"), having offices at 600 McNamara Alumni Center, 200 Oak Street SE, Minneapolis, Minnesota 55455-2020, is desirous of documenting the acquisition of the entire right, title and interest in and to said invention, said Application(s) and in, to and under any and all Letters Patent to be obtained therefor;

WHEREAS, I hereby acknowledge an obligation of assignment of the inventions disclosed in the Application(s) to Assignee at the time the invention(s) was made;

NOW, THEREFORE, to all whom it may concern, be it known that for good and valuable consideration, the receipt and sufficiency whereof is hereby acknowledged, and to the extent that I have not done so already via a prior agreement with the Assignee, or if I have already done so via a prior agreement with the Assignee then in confirmation of said prior agreement, I have sold, assigned, transferred and set over and by these presents do sell, assign, transfer and set over unto Assignee, its successors and assigns, the entire right, title and interest in and to the inventions set forth hereinabove and the entire right, title and interest in and to any and all Letters Patent of the United States and any foreign countries which may be granted therefor on the Application(s) including rights of priority under the Paris Convention for the Protection of Industrial Property and the European Patent Convention, and in and to any and all extensions, divisions, continuations, continuations-in-part or reissues of said Application(s) and Letters Patent that may be granted, including all rights to claim priority therefrom, and specifically including the right to enforce such Letters Patent in the name of Assignee and to recover damages for past infringement of the rights conveyed herein, the same to be held and enjoyed by Assignee for its own use and benefit and use and benefit of its successors and assigns to the full end of the term for which said Letters Patent may be granted, as fully and entirely as the same would have been held and enjoyed by me had this assignment and sale not been made.

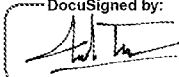
I hereby authorize said Assignee, its successors and assigns, or anyone it may properly designate, to apply for Letters Patent, in its own name if desired, in any and all foreign countries, and additionally to claim the filing date of any the Application(s) and/or otherwise take advantage of all rights of priority created by said Application(s) under any treaty relating thereto (including the right to claim priority to said patent application, e.g., under the provisions of the Paris Convention for the Protection of Industrial Property and the European Patent Convention).

Attorney Docket No. 920171.00319  
UM Case No. 2020-003

Upon said consideration I do hereby covenant and agree with said Assignee, its successors and assigns, that I will not execute in writing or do any act whatsoever conflicting with these presents, and that I or my executors or administrators will at any time upon request, without further or additional consideration, but at the expense of said Assignee, its successors and assigns, execute such additional writings and do such additional acts as said Assignee, its successors and assigns, may deem necessary or desirable to perfect the Assignee's enjoyment of this grant, and render all necessary assistance in making application for and obtaining original, divisional, reissues or extended Letters Patent of the United States, or of any and all foreign countries on said invention, and in enforcing any rights occurring as a result of such application or patents, by giving testimony in any proceedings or transactions involving such applications or patents.

I hereby request the Honorable Commissioner of Patents and Trademarks to issue the Letters Patent to Assignee in accordance with this instrument.


I have hereunto set my hand on June 30, 2020 | 12:55 PM CDT

DocuSigned by:  
  
C91F8B39503241A...

Anh Tuan Nguyen

I have hereunto set my hand on, July 6, 2020 | 6:45 AM CDT, on behalf of  
Assignee Regents of the University of Minnesota accepting this assignment.

REGENTS OF THE UNIVERSITY OF MINNESOTA

DocuSigned by:  
  
OFB835187311411...

Carol Grutkoski  
Chief of Staff and Operations Manager  
per Presidential Delegation ID\_257866

Attorney Docket No. 920171.00319  
UM Case No. 2020-003





## UNIVERSITY OF MINNESOTA

### ASSIGNMENT

WHEREAS, I, Diu Khue Luu, have invented certain new and useful inventions in SYSTEM AND METHOD FOR A SUPER-RESOLUTION DIGITAL-TO-ANALOG CONVERTER BASED ON REDUNDANT SENSING, for which applications for Letters Patents of the United States have been made, said applications being filed as follows: Provisional application no. 62/913,759 on October 11, 2019; (the "Application(s)");

WHEREAS, REGENTS OF THE UNIVERSITY OF MINNESOTA ("Assignee"), having offices at 600 McNamara Alumni Center, 200 Oak Street SE, Minneapolis, Minnesota 55455-2020, is desirous of documenting the acquisition of the entire right, title and interest in and to said invention, said Application(s) and in, to and under any and all Letters Patent to be obtained therefor;

WHEREAS, I hereby acknowledge an obligation of assignment of the inventions disclosed in the Application(s) to Assignee at the time the invention(s) was made;

NOW, THEREFORE, to all whom it may concern, be it known that for good and valuable consideration, the receipt and sufficiency whereof is hereby acknowledged, and to the extent that I have not done so already via a prior agreement with the Assignee, or if I have already done so via a prior agreement with the Assignee then in confirmation of said prior agreement, I have sold, assigned, transferred and set over and by these presents do sell, assign, transfer and set over unto Assignee, its successors and assigns, the entire right, title and interest in and to the inventions set forth hereinabove and the entire right, title and interest in and to any and all Letters Patent of the United States and any foreign countries which may be granted therefor on the Application(s) including rights of priority under the Paris Convention for the Protection of Industrial Property and the European Patent Convention, and in and to any and all extensions, divisions, continuations, continuations-in-part or reissues of said Application(s) and Letters Patent that may be granted, including all rights to claim priority therefrom, and specifically including the right to enforce such Letters Patent in the name of Assignee and to recover damages for past infringement of the rights conveyed herein, the same to be held and enjoyed by Assignee for its own use and benefit and use and benefit of its successors and assigns to the full end of the term for which said Letters Patent may be granted, as fully and entirely as the same would have been held and enjoyed by me had this assignment and sale not been made.


I hereby authorize said Assignee, its successors and assigns, or anyone it may properly designate, to apply for Letters Patent, in its own name if desired, in any and all foreign countries, and additionally to claim the filing date of any the Application(s) and/or otherwise take advantage of all rights of priority created by said Application(s) under any treaty relating thereto (including the right to claim priority to said patent application, e.g., under the provisions of the Paris Convention for the Protection of Industrial Property and the European Patent Convention).

Attorney Docket No. 920171.00319  
UM Case No. 2020-003

Upon said consideration I do hereby covenant and agree with said Assignee, its successors and assigns, that I will not execute in writing or do any act whatsoever conflicting with these presents, and that I or my executors or administrators will at any time upon request, without further or additional consideration, but at the expense of said Assignee, its successors and assigns, execute such additional writings and do such additional acts as said Assignee, its successors and assigns, may deem necessary or desirable to perfect the Assignee's enjoyment of this grant, and render all necessary assistance in making application for and obtaining original, divisional, reissues or extended Letters Patent of the United States, or of any and all foreign countries on said invention, and in enforcing any rights occurring as a result of such application or patents, by giving testimony in any proceedings or transactions involving such applications or patents.

I hereby request the Honorable Commissioner of Patents and Trademarks to issue the Letters Patent to Assignee in accordance with this instrument.


I have hereunto set my hand on June 30, 2020 | 12:56 PM CDT

DocuSigned by:  
  
8E86A2D50E23423...

Diu Khue Luu

I have hereunto set my hand on, July 6, 2020 | 6:45 AM CDT, on behalf of  
Assignee Regents of the University of Minnesota accepting this assignment.

REGENTS OF THE UNIVERSITY OF MINNESOTA

DocuSigned by:  
  
OFB835187311411...

Carol Grutkoski  
Chief of Staff and Operations Manager  
per Presidential Delegation ID\_\_257866

Attorney Docket No. 920171.00319  
UM Case No. 2020-003



UNIVERSITY OF MINNESOTA  
ASSIGNMENT

WHEREAS, I, Jian Xu, have invented certain new and useful inventions in SYSTEM AND METHOD FOR A SUPER-RESOLUTION DIGITAL-TO-ANALOG CONVERTER BASED ON REDUNDANT SENSING, for which applications for Letters Patents of the United States have been made, said applications being filed as follows: Provisional application no. 62/913,759 on October 11, 2019; (the "Application(s)");

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Attorney Docket No. 920171.00319  
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I hereby request the Honorable Commissioner of Patents and Trademarks to issue the Letters Patent to Assignee in accordance with this instrument.

I have hereunto set my hand on July 3, 2020 | 6:58 AM CDT.

DocuSigned by:

*Jian Xu* \_\_\_\_\_/

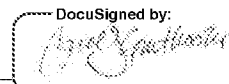
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Jian Xu

Attorney Docket No. 920171.00319  
UM Case No. 2020-003

I have hereunto set my hand on, July 6, 2020 | 6:45 AM CDT, on behalf of  
Assignee Regents of the University of Minnesota accepting this assignment.

REGENTS OF THE UNIVERSITY OF MINNESOTA

DocuSigned by:  
  
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Carol Grutkoski  
Chief of Staff and Operations Manager  
per Presidential Delegation ID\_\_257866

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